

3. A conversion layer according to claim 1 ~~[or 2]~~, characterised in that it may contain, for further enhanced corrosion protection, additional components selected from the group consisting of: silicate, cerium, aluminum and borate;
- additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr, Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and
- anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and
- polymers, in particular organic polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycine; siccatives, in particular cobalt siccatives; dispersing agents; and
- mixtures thereof.
4. A conversion layer according to ~~[any one of]~~ claims ~~[5]~~ 1 ~~[to 3]~~, characterised in that it is a basis for further inorganic and/or organic layers.
5. A conversion layer according to ~~[any one of]~~ claims ~~[5]~~ 1 ~~[to 4]~~, characterised in that it contains dyes or color pigments for modification of the inherent color thereof.
6. A conversion layer according to ~~[any one of]~~ claims ~~[5]~~ 1 ~~[to 5]~~, characterised in that its layer thickness is approx. 100 nm.

- the method is performed repeatedly on the surface to be passivated.

- additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr, Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

polymers, in particular organic polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycine; siccatives, in particular cobalt siccatives; dispersing agents; as well as

A passivation bath according to claim 14~~[or 15]~~, characterised in that it has a pH between approx. 1.5 and 3.

- additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycine; siccatives, in particular cobalt siccatives; dispersing agents; as well as

mixtures thereof.

19. A passivation bath according to ~~any one of~~ claims ~~14 to 19~~, characterised in that it has a bath temperature of approx. 20 to 100°C, preferably 20 to 80°C, in a preferred manner 30 to 60°C, in a particularly preferred manner 40 to 60°C.
20. A method for passivating surfaces of zinc or zinc alloys, in particular ones with iron,

### characterised in that

the objects to be treated are immersed in a passivation bath according to ~~any one of~~ claims ~~14 to 19~~.

22. A method according to ~~any one of~~ claims ~~20 to 23~~, characterised in that it is an elevated-temperature chromate coating method with rinsing water recycling over at least 2 cascaded rinsing stages.
24. A passive layer obtainable by a method according to ~~at least one of~~ claims ~~20 to 23~~.

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26. A passive layer according to claim 24 ~~[or 25]~~, characterised in that it presents a greenish, red-green iridescent color for zinc.
27. A passive layer according to ~~[any one of]~~ claims ~~[7]~~ 24 ~~[to 26]~~, characterised in that its layer thickness is approx. 100 nm.
28. A conversion layer obtainable by a method according to ~~[at least one of]~~ claims ~~[7 to 9]~~.

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